

Amendments to the Specification:

Please replace paragraph [13], on page 5, lines 7-21, with the following rewritten paragraph:

[13] There can be other modifications, alternatives, and variations. As described above, the triggering of the laser switching can be actuated at the beginning of each line scan. Alternately it could begin based on topographical information from the probe (that is that the probe is over the sample of interest) or on a user defined area or coordinate set. The switching itself can be accomplished in a variety of ways other than the acousto-optical method described above. These other ways include using an electro-optic modulator or a shutter or chopper which is triggered or timed to correspond to the aforementioned inputs (beginning of line, coordinate, topographical information). The use of either an acousto-optic or electro-optic switching method allows for extremely fast (<10 nanosecond) switching times which enables other types of laser-triggering schemes. For instance, the laser may be triggered by the oscillating motion of the probe so that the laser would be on only for a portion of the probe oscillation cycle. This triggering scheme can be used to enhance the optical contrast as well as maximizing and/or improving the fluorescent molecule lifetimes. Other techniques may also use scanners, mirrors (e.g., MEMS), any combination of these and the like. [[oi]]

Please replace paragraph [44] on page 12, lines 8-22, with the following rewritten paragraph:

[44] The system also includes a tapping mode atomic force microscope (“AFM”) 110. In a specific embodiment, the AFM 110 has various elements such as probe 107, a cantilever to support the probe, which is coupled to a piezo-electric stack [[104]]. Such piezo-stack provides for dithering and z-motion of the cantilever. The AFM also includes a driving signal, which is coupled to control electronics 113 for signal detection and correction. Preferably, probe 107 has a pyramidal shape and the tip of the pyramid is coated with silver particles. Alternatively, other particles or coatings can also be used. For example, such coatings include, among others, semiconductor (e.g., silicon, silicon nitride, diamond, etc.), conductors

(e.g., platinum, gold, silver alloys, aluminum, platinum-irridium, cobalt and any other metals as well as materials doped to be conductive), as well as combination of these, and the like. The AFM also includes a laser source 103, which is directed to the cantilever or probe. The laser source is used as a position detector, which provides photons that scatter off of the cantilever and/or probe. Such scattered photons are detected by way of photodetector 105, which is coupled to control electronics 113. The AFM is coupled to an inverted optical microscope, as shown.